

I claim:

1. A composition for disinfecting a contact lens comprising an effective disinfecting amount of hydrogen peroxide and a surfactant comprising a low-foaming or non-foaming copolymer of hydrophobe and hydrophile blocks of the structure:



or



wherein x and y are integers reflecting the respective hydrophile and hydrophobe blocks of said copolymer; and the hydrophile component of the block copolymer constitutes less than 50 weight percent of the block copolymer.

2. A composition for disinfecting a contact lens as claimed in Claim 1, wherein said hydrophile is polyoxyethylene.

3. A composition for disinfecting a contact lens as claimed in Claim 2, wherein said hydrophobe is polyoxypropylene.

4. A composition for disinfecting a contact lens as claimed in Claim 3, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of less than 1 mm.

5. A composition for disinfecting a contact lens as claimed in Claim 4, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of about 0 mm.

6. A composition for disinfecting a contact lens as claimed in Claim 1, wherein the hydrophile constitutes from about 10 to 50 weight percent of the block copolymer.

7. A composition for disinfecting a contact lens as claimed in Claim 6, wherein the hydrophile constitutes about 40 weight percent of the block copolymer.

8. A composition for disinfecting a contact lens as claimed in Claim 1, wherein the molecular weight of the hydrophobe block is from about 1200 and about 3100.

9. A composition for disinfecting a contact lens as claimed in Claim 8, wherein the molecular weight of the hydrophobe is from about 1000 and about 2500.

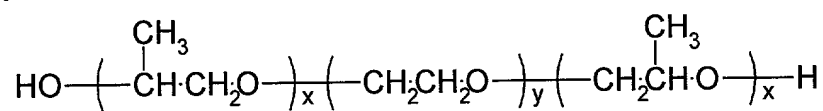
10. A composition for disinfecting a contact lens as claimed in Claim 9, wherein the molecular weight of the hydrophobe is approximately 1700.

11. A composition for disinfecting a contact lens as claimed in Claim 1, wherein said surfactant is present in the range of about 0.005% to about 0.8%.

12. A composition for disinfecting a contact lens as claimed in Claim 11, wherein said surfactant is present in the range of about 0.01% to about 0.5%

13. A composition for disinfecting a contact lens as claimed in Claim 12, wherein said surfactant is less than 0.1% by weight of the solution.

14. A composition for disinfecting a contact lens comprising an aqueous solution of an effective disinfecting amount of hydrogen peroxide and a polyoxyethylene/polyoxypropylene block copolymer having the structure:



wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer; and the polyoxyethylene component of the block copolymer constitutes less than 50 weight percent of the block copolymer;

wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of less than 1 mm.

15. A composition for disinfecting a contact lens as claimed in Claim 14, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of about 0 mm.

16. A composition for disinfecting a contact lens as claimed in Claim 15, wherein the polyoxyethylene component of the block copolymer constitutes about 40 weight percent of the block copolymer.

17. A composition for disinfecting a contact lens as claimed in Claim 14, wherein the molecular weight of the polyoxypropylene block is from about 1200 and about 3100.

18. A composition for disinfecting a contact lens as claimed in Claim 17, wherein the molecular weight of the polyoxypropylene block is approximately 1700.

19. A composition for disinfecting a contact lens as claimed in Claim 14, wherein said surfactant is present in the range of about 0.005% to about 0.8%.

20. A composition for disinfecting a contact lens as claimed in Claim 21, wherein said surfactant is less than 0.1% by weight of the solution.

21. A composition for disinfecting a contact lens as claimed in Claim 14, wherein hydrogen peroxide is present in a concentration of about 0.5% to about 6% by weight.

22. A composition for disinfecting a contact lens as claimed in Claim 21, wherein hydrogen peroxide is present in a concentration of 2% to 6% by weight.

23. A composition for disinfecting a contact lens as claimed in Claim 21, further comprising a hydrogen peroxide stabilizer; wherein said stabilizer comprises a diphosphonic acid alkanol.

24. A composition for disinfecting a contact lens as claimed in Claim 23, wherein said stabilizer comprises diethylene triamine penta-(methylenephosphonic acid) or a ocularly compatible salt thereof; wherein said stabilizer is about 0.006 and about 0.02% by weight of the composition.

25. A composition for disinfecting a contact lens as claimed in Claim 22, further comprising a buffer to maintain said composition at a pH of about 4 to about 9.

26. A composition for disinfecting a contact lens as claimed in Claim 25, wherein said buffer is selected from the group consisting of basic acetates, phosphates, borates, nitrates, sulfates, tartrates, lactates, carbonates, bicarbonates, and mixtures thereof; wherein said buffer is present in the range of 0.001% to 2%.

27. A composition for disinfecting a contact lens as claimed in Claim 26, wherein said phosphate buffer is selected from the group consisting of monobasic phosphates, dibasic phosphates, and mixtures thereof; wherein said phosphate buffer is present in the range of from about 0.05% to about 0.30%.

28. A composition for disinfecting a contact lens as claimed in Claim 27, further comprising a tonicity component to provide the solution with a tonicity of from 50 to 400 mosmol/kg; wherein said tonicity component is selected from the group consisting of water soluble salts compatible with ocular tissue.

5 29. A composition for disinfecting a contact lens comprising an aqueous solution of:

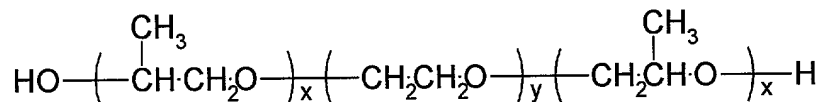
hydrogen peroxide;

a buffer compatible with ocular tissue;

a hydrogen peroxide stabilizer comprising a diphosphonic acid alkanol;

10 a tonicity component; and

polyoxyethylene/polyoxypropylene block copolymer having the structure:



wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer.

15 30. A composition for disinfecting a contact lens as claimed in Claim 29, wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of about 0 mm.

31. A composition for disinfecting a contact lens as claimed in Claim 30, wherein the polyoxyethylene component of the block copolymer constitutes less
20 than 50 weight percent of the block copolymer.

32. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said stabilizer comprises diethylene triamine penta-
(methylenephosphonic acid) or a ocularly compatible salt thereof and is present
in the composition in an amount between about 0.001 and about 0.03% by
25 weight of the solution.

33. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said buffer is selected from the group consisting of sodium dibasic phosphate (Na₂HPO₄), sodium monobasic phosphate (NaH₂PO₄), potassium monobasic phosphate (KH₂PO₄), and mixtures thereof; and said phosphate
30 buffer is present in the range of from about 0.05% to about 0.30%.

34. A composition for disinfecting a contact lens as claimed in Claim 30, wherein said tonicity component is sodium chloride and provides said solution with a tonicity of from 250 to 350 mosmol/kg.

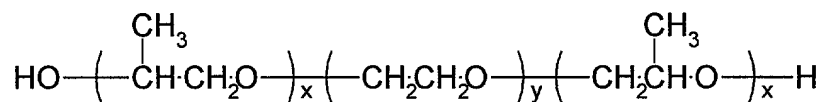
35. A composition for disinfecting a contact lens as claimed in Claim 29, comprising from 2 to 6% hydrogen peroxide; and between 0.01% and 0.10% polyoxyethylene/polyoxypropylene block copolymer;

wherein the polyoxyethylene component of the block copolymer constitutes about 40 weight percent of the block copolymer; and

wherein the molecular weight of the polyoxypropylene block of the copolymer is approximately 1700.

36. A method of disinfecting a contact lens comprising the steps of:

(a) contacting a contact lens with an aqueous solution of an effective disinfecting amount of hydrogen peroxide and a polyoxyethylene/polyoxypropylene block copolymer having the structure:



wherein x and y are integers reflecting the respective polyethylene oxide and polypropylene oxide blocks of said copolymer; and the polyoxyethylene component of the block copolymer constitutes less than 50 weight percent of the block copolymer;

wherein said block copolymer has a Ross-Miles foam height (ASTM designation D-1173-53; 0.1%, at 50°C) of less than 1 mm; and

(b) neutralizing said hydrogen peroxide by catalytic decomposition.

37. A method of disinfecting a contact lens as claimed in Claim 36, wherein said step of neutralizing comprises contacting said solution with a metal catalyst.

38. A method of disinfecting a contact lens as claimed in Claim 37, wherein the lens is ready for insertion into the eye without a step of manually rubbing the lens.